

Document Conversion to HTML

Best practice is to have documents (e.g. PDF, Word) converted to HTML (Hypertext Markup Language) for maximum accessibility and the best user experience. Pearson requires documents converted to HTML to adhere to the current version of WCAG 2.1 Level AA , and guidelines outlined in the [Pearson Content and Digital Design Accessibility Playbook](#).

Alt Text

- DO check descriptions and alt text for proper grammar and spelling.
- DO NOT exceed **255 characters** when entering alt text because screen reader users cannot navigate through that content on their own accord. When the alt text exceeds that limit, you should provide the additional content in an extended description in a disclosure below the image instead.
- DO NOT leave the alt attribute of an image blank if an extended description is provided. The alt text should contain a summary of the content of the image and/or point out that an extended description is available after the image.
- DO label all extended descriptions disclosure buttons in a unique manner by referencing existing text on the page. Use the aria-labelledby attribute on the button to add identifying information without affecting the visual display. The label should use the following format (assuming text is visible on the page for Homework #.# and Problem #): Extended Figure Description for Homework #.# Problem ##
- DO provide consistent alt text for symbols or images used as placeholders (e.g., underscores). See the Fill in the Blank section below for detailed guidance.
- DO leave a space between single letter variable names in alt text so they are announced as separate letters/variables. For example, “Ax + By” must be announced as “A x plus B y”.
- DO spell out notation symbols and punctuation critical to understand STEM expressions. This includes parenthesis and comma symbols included a point’s coordinate in the image of a graph (use “open paren”, “comma”, “close paren”), and common operations such as “plus”, “minus”. For example, the alt text of an image displaying an inverted parabola with a vertex at point V (2, -3) should be: “Inverted parabola with the vertex V open paren 2 commas minus 3 close paren”
- DO use the title element to provide alt text for SVG graphics

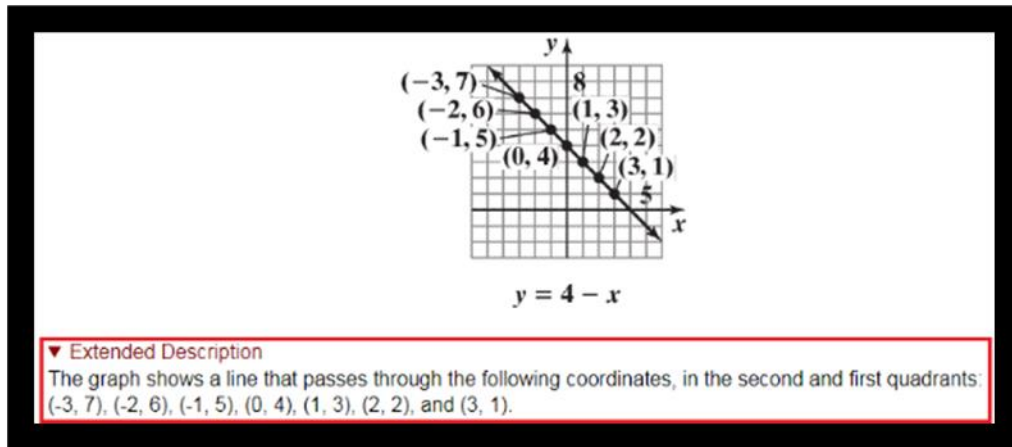
Graphs & Data Visualizations

- DO describe the properties of any data visualization such as graphs in the following order:
 1. Title
 2. Graph type
 3. Axes label, units, direction (if the graph is 2-dimensional, start with vertical axis, then the horizontal axis) and origin (if the axes originate from the same point instead of intersecting at a given point, be sure to include that detail)
 4. General description of each curve



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- DO use the proper vocabulary to describe a line on a graph. If the line is straight, refer to it as a “line”. If it curves, use the term “curve”. If it is a specific type of curve, such as a parabola, use that specific term and include key words such as the “vertex” for a parabola.
- DO write the content of extended descriptions in a format that is easy and familiar to sighted users, as shown below:



STEM

- DO include the same version of MathJax on every page that contains MathML expressions
- DO use [presentational MathML](#) only, as MathJax won't read [content MathML](#).
- DO include the MathML namespace on every instance of the <math> element as follows: `<math xmlns="http://www.w3.org/1998/Math/MathML">`
- DO use MathML for all scientific expressions whenever possible, even if the original expression isn't using MathML.
- DO NOT add alternative text for MathML expressions that render correctly. DO provide alternative text for any MathML expressions that do not read correctly when using a screen reader. This is rare, and the only time you need to provide alternative text for a Math expression directly is when MathJax or the browser cannot automatically generate alt text based on the MathML markup it understands. To do this, use the alttext attribute on the <math> element.

Headings

- DO mark up any visible text that functions as a heading in the visual structure of the page
- Do Double check the existing heading structure on the page when marking up text as a heading
- Do use a single H1 heading as the first heading on a page
- DO not skip heading levels

Tables

- DO NOT include a MathML expression in a row or column header in a table. Instead, you can provide the same information using ASCII symbols or images of the expression with proper alt text.

- DO NOT format a MathML expression using the MathML table notation. Instead, if you need to line up content visually use CSS (Cascading Style Sheets) . You can also use an image with proper alt text for each expression.

List Style

- DO format any content that looks like a list in the original document with list markup. Bullets must be visible for all screen readers to register the information as being displayed in a list
- DO format tables of contents using list markup, even if you must use an unordered list

Fill in the Blank

There are 2 types of fill-in-the-blank exercise patterns: interactive and static. An interactive fill-in-the-blank exercise allows the user to enter information directly into a form field. A static fill-in-the-blank exercise does not. The latter is meant for reading and study purposes only. Before continuing, ask your Pearson Content Producer which type is required. Best practice is to include directions or a sub-heading stating “Fill-in-the-Blank”.

Interactive fill-in-the-blanks

- DO associate a <label> with an <input> by setting the id attribute of the <input> to match the for attribute of the <label>. As a general rule, the label for the missing expression should be the part of the sentence preceding it. If the text after the missing expression is helpful for comprehension, it can be added as a description to the expression.
- DO NOT nest <input> inside <label> elements. Although it is technically valid HTML, some screen readers struggle with that pattern.
- DO make sure that all text inputs have a clearly contrasting focus ring. The minimum contrast ratio required by WCAG is 3:1. DO use the <textarea> element when long responses are required by the user.

Static fill-in-the-blank

- DO use an image for the underlined portion of the fill-in-the-blank so you can use the alt text attribute to give the spot to fill in a meaningful description. Screen readers will not announce a series of underscore symbols.
- DO consider the content and type of document when determining appropriate alt text for the image of the blank line. Options include but are not limited to: “blank”, “missing word”.
- DO use consistent alt text for the blank line throughout the document (e.g. use “missing expression” for every spot to fill in).
- DO use “missing expression” as the alt text for fill-in-the-blank line images when placed in STEM products.

EXAMPLE

$$f(x) = \underline{\hspace{2cm}}$$

“f of x equals” would be the label and should be added using MathML. An image of a line with the alt text = “missing expression” should be used to indicate to users where the missing expression should be added.

- DO provide consistent alt text for symbols or images or symbols used as placeholders (ei.ge., underscores).
For example, when using an image of underline symbols to indicate where a student must fill in a word, use consistent alt text wording (i.e., ``). If this pattern is repeated multiple times on the same page, the alt text for each image should be incremented (“missing word 1” then “missing word 2” ...)
- DO NOT number alt text when there is only one fill-in-the-blank expression in a document.